The SKA Challenge

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Square Kilometre Array Organisation
SKA worldwide scope

Full members
- SKA Headquarters host country
- SKA Phase 1 and Phase 2 host countries

African partner countries
(non-member SKA Phase 2 host countries)

This map is intended for reference only and is not meant to represent legal borders.

Exploring the Universe with the world’s largest radio telescope
SKA Dataflow

Antennas to correlators
25 Tbit/sec, 0-100’s of km.

Correlators to Science Processing
8 Tbits/sec, >1000 km

HPC Processing
2023: 300 PFlop
2030: 30 EFlop

Host countries to Scientists
2x10 Gbit/sec, worldwide.

Exploring the Universe with the world’s largest radio telescope
Software raw numbers

• 1000 man years
• Processing:
  – 2023: 300 PFlop
  – 2030: 30 EFlop
• 50 year life cycle
• Power cap:
  – 8 MW at site
  – 10 MW off site
Quality is everything
The biggest risk
The biggest risk
SQUARE KILOMETRE ARRAY
Exploring the Universe with the world’s largest radio telescope

http://www.skatelescope.org